

What is claimed is:

1. A piezoelectric actuator comprising piezoelectric elements having different thicknesses stacked on one another.
2. A piezoelectric actuator according to Claim 1 which is distorted when a driving signal is input to generate a driving force and in which a piezoelectric element located at a side of the piezoelectric actuator with greater distortion has a thickness smaller than that of a piezoelectric element located at a side of the piezoelectric actuator with smaller distortion.
3. A piezoelectric actuator according to Claim 1, wherein at least two of the piezoelectric elements generate vibrations in the same direction.
4. A piezoelectric actuator according to Claim 1, wherein the piezoelectric elements are stacked in a direction in parallel with an output portion of the piezoelectric actuator.
5. A piezoelectric actuator according to Claim 1, wherein the piezoelectric elements are stacked in a direction perpendicular to the output portion of the piezoelectric actuator.
6. A piezoelectric actuator according to Claim 1, wherein the piezoelectric elements are piezoelectric elements for generating a plurality of different vibrations which are synthesized to be used as a driving force.
7. A piezoelectric actuator according to Claim 6, wherein the plurality of different vibrations of the piezoelectric

Q1
Cont.

elements are generated by respective separate piezoelectric elements.

8. A piezoelectric actuator according to Claim 1, wherein the piezoelectric elements include a piezoelectric element for detecting a vibration and wherein the piezoelectric element for detecting a vibration has a thickness different from those of the other piezoelectric elements.

9. An ultrasonic motor comprising:

a piezoelectric actuator formed by stacking piezoelectric elements having different thicknesses; and

a vibrator having the same thickness as that of the piezoelectric actuator vibrated by a vibration of the piezoelectric actuator.

10. A piezoelectric sensor comprising a piezoelectric actuator formed by stacking piezoelectric elements having different thicknesses.

11. A piezoelectric sensor according to Claim 10 wherein the piezoelectric actuator is distorted when a driving signal is input to generate a driving force and wherein a piezoelectric element located at a side of the piezoelectric actuator with greater distortion has a thickness smaller than that of a piezoelectric element located at a side of the piezoelectric actuator with smaller distortion.

12. An electronic apparatus with a piezoelectric actuator, comprising a piezoelectric actuator according to Claim 1.

Q1
Cont.

SUB
Q2

A2
Cont.

13. An electronic apparatus with a piezoelectric sensor,
comprising a piezoelectric sensor according to Claim 10.

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a3

add
B5

add
C3

add
D5